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Abstract

Women with postnatal depression (PND) are often reluctant to take medication postnatally and access to psychological therapies is limited. Exercise offers a freely available treatment option but depressed mothers' experience of exercise has not been investigated. We conducted a qualitative study nested within a randomised trial of an exercise intervention for women with PND. Women described deterioration in their sense of identity and through experiencing depression, and the positive impact exercise had on their sense of self. Views of exercise as treatment for PND ranged from doubts about its practicality, to positive comparisons with other traditional treatments, to improved recovery.

Keywords

General practice, exercise, depression, postpartum, qualitative research, women

Introduction

Postnatal depression is a common public health problem affecting 10-15% of women in the year after birth (1). PND can have a profound effect on mothers, families and the social and cognitive development of children (2). PND is commonly treated in primary care with antidepressants and psychological therapies (3). However, there is a known reluctance amongst postnatal women to taking antidepressants, especially if breastfeeding (4) and long waiting lists for counselling (5). Group exercise is currently recommended by the UK National Institute for Health and Care Excellence (NICE) for treating mild to moderate depression in the general population (6). Qualitative research has highlighted the acceptability of exercise as a treatment for depression, but also the potential barriers, including lethargy, fatigue and lack of confidence (7). These factors, along with physical, practical and psychological barriers unique to the postnatal period may affect the acceptability of exercise as a treatment for PND. Greater knowledge of the acceptability of exercise to women with PND may be useful to primary care health professionals when discussing treatment options. The aim of this study was to explore the views of women after participating in a trial to test the effectiveness of exercise as a treatment for their PND.

Method

Research design

A nested qualitative study within a randomised controlled trial (RCT) of an exercise

counselling intervention for women with PND in the West Midlands, UK, conducted between 2010 and 2013 (8). The RCT and nested qualitative study were granted favourable ethical opinion by Birmingham East, North and Solihull Research Ethics Committee (09/H1206/94). All participants received usual care. The intervention was delivered by a physical activity facilitator who provided individualised exercise advice and support via home visits and phone calls over a six month period to the exercise group. Participants in the comparator group received usual care from their health providers and brief written information on ways to maintain their health in the postpartum period. Exercise was not further encouraged beyond this.

Participants and recruitment

At the time of recruitment all participants had an ICD-10 diagnosis of major depression or mixed anxiety and depression; were up to six months postnatal; aged 18 years or more and inactive (less than 150 minutes of moderate exercise a week). Participants from the RCT intervention group were invited to take part in an interview after completing six month trial follow up. Comparator participants were also invited for interview as they were advised to continue with any usual care from their health providers -and some may have independently chosen to begin exercising during the study. They may therefore have held views about exercise and PND. Participants were purposefully sampled (9) to achieve maximum variation in Edinburgh Postnatal Depression Score (EPDS) (an indication of depression severity); age; ethnicity; parity;

employment status and level of socio-economic deprivation.

Semi-structured interviews

Interviews were semi-structured (10) and an interview schedule was used to ensure core points were discussed. The schedule explored women's current and previous exercise levels; their experiences of the exercise trial; the motivations, barriers, disadvantages and benefits of exercise and women's views of exercise as a treatment for PND.

Participants provided written informed consent before interviews were conducted. All interviews took place in participants' homes and lasted 35 - 45 minutes. Interviews were audio recorded, transcribed verbatim and anonymised. Data collection and analysis took place concurrently. Data collection ended when data saturation was reached, with no new themes emerging from the data.

Data analysis

A thematic framework analysis was conducted (11). To enable familiarisation, three transcripts were read repeatedly then coded independently by two researchers (RP and KT). Discrepancies in coding were resolved through discussion, leading to the generation of one coherent coding framework that was applied to further interviews. This joint analytical approach ensured rigour in the process. All transcripts were then uploaded into NVivo version 10 (12) and coded electronically. Codes relating to a particular subject were grouped together under subthemes; subthemes relating to the same concept were grouped into themes. Data from the codes within each theme and

subtheme were summarised in a framework table. The framework approach enabled comparisons to be made within and across the data (11), enabling a comprehensive synthesis of findings.

Results

Fifty seven of the 94 RCT participants were invited to take part in this qualitative study; 47 agreed to be interviewed; 16 were unresponsive or declined after contact; 21

interviews were conducted between November 2010 and November 2011. [Of the 21 participants interviewed 13 were from the intervention and 8 from the comparator group \(for further characteristics see Table 1\).](#) Three main themes were identified: barriers and facilitators of postnatal exercise; attitudes towards exercise as a mother and views and experiences of exercise as a treatment for PND. [To give an indication of the pervasiveness of the different reported barriers and benefits of exercise, the number of participants who discussed them during interview has been provided in brackets after each statement.](#)

“INSERT HERE”

The barriers and facilitators of postnatal exercise

Women described a range of physical, practical and psychological barriers to postnatal exercise, but also strategies to overcome these and integrate exercise into daily life.

Initial physical limitations were those likely to affect all postnatal women, including recovery from childbirth [\[4\]](#), profound fatigue [\[8\]](#) and the demands of breastfeeding [\[4\]](#).

‘if you are tired and as tired as you can be with a...baby, that makes a lot of things insurmountable.’ (ID 376, 34yrs)

Depression and anxiety caused self-isolation [\[8\]](#); some women described a fear of pushing themselves beyond what they could cope with psychologically [\[3\]](#).

‘I did hit quite a bad low, I wasn’t able to even contemplate doing any classes or anything like that because I had quite bad anxiety, so even the thought of going into new places with new people I couldn’t face any of that.’ (ID 277, 39yrs)

However, some women recalled adapting their exercise to their mood [\[4\]](#).

‘I had some days when as I say, just getting up and getting my children to school and looking after [baby] was enough, and you know I really couldn’t do any more and on those days I didn’t push myself to do anymore...on days when I was

feeling a little bit brighter I could achieve more and I was able to, 'right I am going for a walk today' (ID 3, 39yrs)

A lack of motivation and an overwhelming sense of inertia were reported by many women [9]. Some felt the need to provide 'legitimate reasons' for inactivity [2].

'You just make excuses, like I said, it's too cold... not feeling quite well, he's not feeling quite well...It's always an excuse for lack of motivation' (ID 227, 23yrs)

Some women avoided committing to an exercise plan to avoid experiencing guilt if they failed [3]. However, others expressed a view that beginning exercise gradually and not creating unrealistic expectations fostered initial efforts [3].

'you know what you can do and then start to push yourself more and more from that point...if you set the bar too high then you're going to, you're going to be sort of disillusioned from the start' (ID 578, 36yrs)

Some women who had previously been very active described a reluctance to compare their current abilities with previous achievements [3].

'knowing what I used to be able to do to then only be able to manage ten minutes or something like that would be just too much for me to bear.' (ID 376, 34yrs)

This self-critical attitude was also seen in some mothers' attitudes to their appearance, with self-consciousness and fear of societal judgement sometimes described as preventing public exercise [3]. Practical barriers included 'time pressure' [9]. Vital tasks

took preference over exercise and women were not always motivated to dedicate rare free time to exercise [2].

‘eating and having clean clothes is a higher priority than going for a walk.’ (ID 539, 34yrs)

A lack of informal childcare was described as a significant barrier to exercise [8], however, some mothers found running locally in the evenings achievable. Many gyms did not provide crèches, especially for children under 1 year [1]. Childcare also severely limited the aerobic potential of some activities [3].

‘I love swimming and that, but I can’t go proper swimming, I mean I can take her to paddle, but I can’t say stay there a minute I’m going to do 30 lengths’ (ID 514, 29yrs)

Walking was very popular, circumventing the financial and childcare requirements of more formal exercise [16]. However, the presence of children could restrict the aerobic and social side of walking, and some women felt awkward breastfeeding in public [2].

‘sometimes a friend did accompany me, but it was difficult with the baby because obviously I had to stop and feed and all the rest of it’ (ID 76, 44yrs)

To avoid childcare issues and poor weather some women exercised at home [7]. However, some described using treadmills or exercise DVDs as monotonous [2], and for some, the presence of their children created a challenging environment for exercise [5]. However, some described home exercise as very practical [2].

'yeah on the running machine... we bought it because I thought if it's there then that excuse sort of falls away...I usually now do it when he's gone to bed, there's no excuse whatsoever because he is in bed. (ID 227, 23yrs)

Some women expressed a view that housework and childcare provided a constant level of activity [\[3\]](#).

'I would be putting my washing out and I would be marching on the spot...I knew it wasn't going to get my heart racing erm it was just to add to the activity that I was doing' (ID 448, 33yrs)

Attitudes towards exercise as a mother

Many women described experiencing a loss of personal identity after having a baby.

'for a while...you do lose yourself a little bit because...once they're here it's like you're just mum.' (ID 227, 23yrs)

Some mothers referred to the constant presence of their child as detrimental to their psychological health. Exercise was commonly described as a source of temporary freedom from the mother role, supporting a sense of self [\[13\]](#).

'I run out the front door and I could almost do that [hands in the air] because it's like 'yes, I'm away'. There's no-one tugging on my trousers, 'mummy can I have a drink.' It is that real sense of freedom and I think that's so important when you've got little kids because you just don't have that.' (ID 151, 37yrs)

Some women described gaining confidence from achieving specific exercise goals [11] and improving their body image [5] at a time when they were experiencing a loss of former confidence and control. Exercise was reported to improve feelings of energy and motivation for daily tasks, consequently improving mood [14].

'you feel tired so you don't want to exercise, so then you feel more tired. Um, it can be quite a downward spiral, and I think it's when you do start to exercise you realise it actually gives you more energy and makes you feel more positive.'

(ID 151, 37yrs)

Exercise outside the home was reported to reduce feelings of isolation, providing a sense of connection with the outside world [7]. Social interaction, either through group exercise or walking with friends facilitated peer support and empathy [5]. Less intensive forms of exercise such as walking were described as fostering mental calmness and improving psychological resilience [10].

'things like go to the park or something on the way home which we are lucky enough to have and I feel a bit more sort of calmer and able to deal with having both of them for a few hours. (ID 376, 34yrs)

The concept of the 'motherhood ideal' pervaded the narratives. Mothers reported feeling pressure from society and from within themselves to always put the needs of the child first. Some mothers struggled not to see exercising as selfish. For many the physical and psychological benefits gained through exercise provided the justification for it.

Furthermore, some women described exercise as helping them fulfil the mother role by providing valuable experiences of family exercise and keeping them physically healthy for the sake of their children [8]. Others discussed how the pressure to be a 'good mother' motivated them to try exercise, in the hope that it would improve their PND symptoms.

'I needed to get up and do something, the longer I kept myself in the house and kept the kids in the house and didn't go out and doing anything the worse I was making it for all of us... it [exercise] was something that was achievable, it wasn't out of my reach, it was, it was feasible.'

'so you didn't want to just have to wait until you got better, you wanted to do something.' (interviewer)

'No, no, yeah I couldn't afford to, you know two kids that need a mum in decent working order' (ID 578, 36yrs)

Views of exercise as a treatment for PND

Women expressed a range of views regarding exercise as a treatment for PND. Exercise was not felt to be a 'stigmatising' treatment as it did not necessitate disclosure of PND to friends and family. For some, exercise was discussed as a preferable first step, staving off the need for antidepressants. Exercise was described as a 'natural' solution compared to 'artificial' antidepressants, which were felt by some to be more damaging than behavioural interventions, and only appropriate for severe depression.

'I felt that the antidepressants were making the situation worse, in the sense that they made me very tired and lethargic and, um, quite disconnected.... and I was aware that exercise releases endorphins, which helps with your mental state so it seemed to be, for me, a better alternative to medication' (ID 151, 37yrs)

Previous negative experiences with antidepressants were also described as leading women towards self-help interventions. However, some suggested that postnatal exercise was impractical and brought only temporary benefits.

'the theory of it is brilliant...But it is just putting it into practice for each individual might not be that easy really.' (ID 3, 39yrs)

Some mothers suggested that there was a place for exercise as part of a combination of treatments. For some women, exercise was described as an effective treatment for PND, improving recovery time and preventing the day to day deterioration of their symptoms.

'that's what kept me sane really, putting the children into the pushchair and just going, walking and walking' (ID 151, 37yrs)

Discussion

Significant physical, practical and psychological barriers to exercise were reported by depressed mothers. However, many were able to incorporate some activity into their daily lives by being adaptable to their mood and relying on informal childcare. Many benefits were reported from exercise, such as improved body image, energy levels, motivation, a sense of freedom, calmness, distraction from unwanted thoughts,

connection to the outside world and empathy from others. Women described a sense of lost control and personal identity after giving birth; exercise provided a sense of regained confidence through achieving personal goals. The propensity of exercise to help mothers provide their child with positive exercise experiences was also much valued. Some women questioned the practicality of exercise and its effect on more severe depression. However, as has been reported in general depressed populations (7) many held a positive view of exercise as a non-stigmatising, natural treatment. Exercise was also felt to avoid the negative side effects of antidepressants such as a sense of disconnection from their child. Some women believed that exercise had effectively improved their recovery time and alleviated their depression.

Many of the psychological barriers to exercise found amongst general populations were also reported by mothers in our study, such as lack of confidence, low motivation (7), and comorbid anxiety (14). Negative coping strategies previously associated with PND such as self-blame and behavioural disengagement (15) were also reported. Additionally, guilt attached to focusing on oneself was found to be a significant barrier to exercise amongst postnatal women. The ability of exercise to reduce depressive symptoms, as reported in recent RCTs (16) was supported by some interviewees. Several other previously reported benefits of exercise were found; principally, increased feelings of energy (17) and improved body image (18). Additionally, reduced negative introspection and isolation, and improved social

interaction were described as valuable by women with PND. The psychological impact of motherhood, including a sense of lost personal identity, has been well documented (19). An altered sense of self has also been found amongst people with depression (20). This research highlighted the positive effect of achieving personal exercise goals on a woman's sense of identity and her experience of depression.

These findings have a number of implications for practice. A wide range of benefits were reported from exercise: improved energy, sleep, social interaction, distraction from low mood and worrying thoughts, weight loss, improved body image and self-confidence. Much of the evidence for activity in depression relates to aerobic exercise, however, it should be noted that as sense of connection to world, calmness and improved mood were reported from even walking at a slow pace. Motherhood involves a profound change in a women's sense of identity. It may be psychologically beneficial for a woman who is depressed and feels a loss of her own identity to take periods of time away from the mothering role to focus on her own health and well-being. Exercise can provide a sense of autonomy and freedom from the mothering role. Emphasising the importance of a woman's psychological and physical health to the well-being of her child may be a valuable way to remove the barrier of guilt at focusing on oneself. This is an important lesson for practice.

To our knowledge, this is the first study to explore women's views and experiences of exercise as a treatment for PND. All interviewees had received an ICD-

10 diagnosis via the gold standard CIS-R interview, defining this clinical population. Several factors improved the diversity of opinions described in this research, including the range of depression severities experienced by participants, some of whom indicated thoughts of self-harm or suicide. This study also successfully recruited participants from ethnic minority groups, which has been found challenging in exercise research (13). It should be noted that, though women with a range of depression severities were included in this study, the views of women with severe depression (9.5%) and mixed anxiety and depression (9.5%) may have been underrepresented. The participants of this study were recruited from an RCT of exercise for PND; those participating in such as trial may be more receptive to exercise as a treatment.

Conclusion

In conclusion, many women viewed exercise as an acceptable, and in many cases, preferable treatment for PND. These findings, supported by recent RCT evidence of the effectiveness of exercise in treatment PND, should encourage clinicians to include exercise as a treatment option in discussions with depressed mothers.

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Declaration of conflicting interests

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Table 1. Participant characteristics

Participant characteristic		N (%) (n=21)
RCT group	Intervention group	13 (61.9)
	Comparator group	8 (38.1)
Age	18-29	6 (28.6)
	30-39	13 (61.9)
	40+	2 (9.5)
Ethnicity	White	12 (57.1)
	Black-African	1 (4.8)
	Pakistani	4 (19.0)
	Indian	3 (14.3)
	Mixed	1 (4.8)
Parity	1	5 (23.8)
	2	9 (42.9)
	3	4 (19.0)
	4	1 (4.8)
	5	2 (9.5)
Activity at baseline	No moderate intensity activity	18 (85.7)
	< 150 minutes moderate activity/ week	3 (14.3)
	≥ 150 minutes moderate activity/ week	0 (0.0)
CIS-R diagnosis at baseline	Mild depressive episode	4 (19.0)
	Moderate depressive episode	13 (61.9)
	Severe depressive episode	2 (9.5)
	Mixed anxiety and depression	2 (9.5)
EPDS at baseline	Range	13-25
	Mean (SD)	16.8 (3.4)
EPDS at 6 months (prior to interview)	Range	4-21
	Mean (SD)	12.4 (6.7)
Self-harm/suicidal ideation at any time during study		9 (42.9)